



US009214695B2

(12) **United States Patent**  
**Wang et al.**

(10) **Patent No.:** **US 9,214,695 B2**  
(45) **Date of Patent:** **Dec. 15, 2015**

(54) **HYBRID ANODES FOR REDOX FLOW BATTERIES**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 80 days.

(21) Appl. No.: **14/166,389**

(22) Filed: **Jan. 28, 2014**

(65) **Prior Publication Data**

US 2014/0141291 A1 May 22, 2014

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 13/532,206, filed on Jun. 25, 2012, and a continuation-in-part of application No. 13/912,516, filed on Jun. 7, 2013, and a continuation-in-part of application No. 13/439,083, filed on Apr. 4, 2012, now Pat. No. 9,130,218.

(51) **Int. Cl.**

**H01M 6/04** (2006.01)

**H01M 8/18** (2006.01)

(Continued)

(52) **U.S. Cl.**

CPC ..... **H01M 8/188** (2013.01); **B82Y 30/00** (2013.01); **H01M 4/13** (2013.01); **H01M 4/38** (2013.01);

(Continued)

(58) **Field of Classification Search**

CPC ..... H01M 8/18; H01M 8/2258; H01M 4/13;

H01M 4/38; H01M 4/405; H01M 4/485; H01M 4/5815; H01M 4/587; H01M 8/188; H01M 8/225; B82Y 30/00; Y02E 60/122; Y02E 60/528

USPC ..... 429/105

See application file for complete search history.

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**ABSTRACT**

RFBs having solid hybrid electrodes can address at least the problems of active material consumption, electrode passivation, and metal electrode dendrite growth that can be characteristic of traditional batteries, especially those operating at high current densities. The RFBs each have a first half cell containing a first redox couple dissolved in a solution or contained in a suspension. The solution or suspension can flow from a reservoir to the first half cell. A second half cell contains the solid hybrid electrode, which has a first electrode connected to a second electrode, thereby resulting in an equipotential between the first and second electrodes. The first and second half cells are separated by a separator or membrane.

**38 Claims, 16 Drawing Sheets**

